AMENDMENTS TO THE CLAIMS

1. - 26. (Canceled)

27. (Currently Amended) A method of treating an aqueous ~~effluent~~ influent containing organic matter in a single chamber reactor having an immersed membrane filtration unit and a bed of catalyst material disposed in the reactor, the method comprising:

a. directing the ~~effluent~~ influent into the reactor;

b. injecting an oxidizing gas into the reactor containing ~~in a direction generally counter to the direction of flow of the effluent~~ influent;

c. directing the ~~effluent~~ influent through the bed of catalyst material and forming treated water, wherein the catalyst material promotes the oxidation reaction of organic material in the ~~effluent~~ influent, or promotes the absorption of organic material by the bed of catalyst material; ~~and~~

~~d. directing at least a portion of the effluent to and through the immersed membrane filtration unit; which filters the effluent and produces a filtered effluent; and~~

d. filtering at least one portion of the treated water in an immersed membrane filtration unit and forming a filtered effluent;

e. bypassing the immersed membrane filtration unit with at least a second portion of the treated water such that the second portion of the treated water is non-permeated treated water;

[[e]]f. directing the filtered effluent from the reactor[[.]];

g. recirculating at least a portion of the non-permeated treated water from the reactor, through a recirculation line and back into the reactor; and

h. recirculating at least a portion of the oxidizing gas from the reactor, through a gas recirculation loop and back into the reactor.

28. (Currently Amended) The method of claim 27 wherein the bed of catalyst material comprises a solid mineral material having the capacity for absorbing organic materials, and wherein the method includes directing the ~~effluent~~ influent in the reactor through the solid mineral material and utilizing the solid mineral material to absorb organic materials from the ~~effluent~~ influent.

29. (Previously Presented) The method of claim 28 wherein the solid mineral material is doped with metallic substances.

30. (Previously Presented) The method of claim 29 wherein the solid mineral material assumes the form of a fluidized bed.

31. (Previously Presented) The method of claim 27 including selecting the size of particles forming the catalyst material such that the size of the individual particles is of a grating less than 100μm.

32. (Previously Presented) The method of claim 31 wherein the particle size of the catalyst material has a size grating between about 10μm and 40μm.

33. (Previously Presented) The method of claim 27 wherein the catalyst material is selected from the group comprising alumina, titanium, coal, activated carbon, polymetallic oxides, and derivatives thereof.

34. (Currently Amended) The method of claim 27 wherein directing the ~~effluent~~ treated water through the membrane filtration unit comprises directing the ~~effluent~~ treated water through one or more microfiltration membranes.

35. (Currently Amended) The method of claim 27 wherein directing the ~~effluent~~ treated water through the membrane filtration unit comprises directing the ~~effluent~~ treated water through one or more ultrafiltration membranes.

36. (Currently Amended) The method of claim 27 wherein directing the ~~effluent~~ treated water through the membrane filtration unit comprises directing the ~~effluent~~ treated water through one or more nanofiltration membranes.

37. (Currently Amended) The method of claim 27 wherein directing the ~~effluent~~ treated water through the membrane filtration unit includes directing the ~~effluent~~ treated water through a mineral filtration unit.

38. (Currently Amended) The method of claim 27 wherein directing the ~~effluent~~ treated water through the membrane filtration unit includes directing the ~~effluent~~ treated water through an organic filtration unit.

39. (Currently Amended) The method of claim 27 wherein the catalyst material forms on the surface of the membrane filtration unit and at least some of the ~~effluent~~ influent is directed through the catalyst material into the membrane filtration unit.

40. (Previously Presented) The method of claim 27 wherein the oxidizing gas comprises at least one oxidant taken from the group including air, ozone, ozoned air, nitrogen oxide, oxygen, and derivatives thereof.

41. (Previously Presented) The method of claim 27 including adding H_2O_2 into the reactor.

42. (Currently Amended) The method of claim 27 including providing a recirculation line outside of the reactor and recirculating at least a portion of the ~~effluent~~ non-permeated treated water such that recirculated ~~effluent~~ non-permeated treated water is directed back through the catalyst material.

43. (Canceled)

44. (Currently Amended) The method of claim 27 wherein the reactor assumes the form of a column and wherein the ~~effluent~~ influent is not subjected to mechanical stirring within the reactor.

45. (Currently Amended) The method of claim 27 including contacting the ~~effluent~~ influent with the catalyst material for a period of about 5 minutes to about 3 hours.

46. (Currently Amended) The method of claim 27 including contacting the ~~effluent~~ influent with the catalyst material for a period of about 30 minutes to about 60 minutes.

47. (Previously Presented) The method of claim 27 including providing a suction source disposed external to the reactor and operatively connecting the suction source to

the membrane filtration unit for inducing filtered effluent from the filtration membrane unit and from the reactor.

48. (Previously Presented) The method of claim 47 wherein the suction includes a pressure of less than 1 bar.

49. (Previously Presented) The method of claim 47 wherein the suction includes a pressure is between 0.1 bars and 0.8 bars.

50. (Currently Amended) A system for treating an aqueous ~~effluent~~ influent containing organic matter comprising:

a. a single chamber reactor having an inlet through which the aqueous ~~effluent~~ influent passes into the reactor;

b. a bed of catalyst material disposed in a lower portion of the reactor for treating the aqueous influent and producing treated water;

c. a membrane filtration system disposed above the bed of catalyst material and in an upper portion of the reactor for filtering the treated water and producing a filtered effluent;

[[b]]d. an oxidizing gas ~~outlet~~ inlet disposed in the reactor for directing an oxidizing gas into the reactor;

~~c. an immersed membrane filtration device disposed in the reactor;~~

~~d. an area defined between the membrane filtration device and the oxidizing gas outlet for a bed of catalyst material; and~~

e. a recirculation line extending exteriorly of the reactor for directing a non-permeated treated water stream from the reactor, through the recirculation line and back into the reactor;

f. an oxidizing gas recirculation loop extending exteriorly of the reactor for directing oxidizing gas from the reactor, through the recirculation loop and back into the reactor; and

[[e]]g. wherein the ~~oxidation~~ oxidizing gas ~~outlet~~ inlet is arranged in the reactor such that the oxidizing gas ~~outlet~~ inlet directs an oxidizing gas therefrom and into the reactor and through ~~a direction generally counter to the flow of~~ the aqueous ~~effluent~~ influent ~~through~~ in the reactor.

51. (Canceled)

52. (Canceled)

53. (Currently Amended) The system of claim 50 wherein the reactor assumes the form of a column wherein the ~~oxidation~~ oxidizing gas ~~outlet~~ inlet is disposed in a bottom portion of the reactor.

54. (Previously Presented) The system of claim 50 including a bed of catalyst material contained within the reactor.

55. (Previously Presented) The system of claim 54 wherein the catalyst material comprises a solid mineral material having the capacity for absorbing organic materials.

56. (Previously Presented) The system of claim 50 including a fluidized bed that includes a bed of catalyst material.

57. (Previously Presented) The system of claim 56 wherein the bed of catalyst material includes particles and wherein the size of the particles is of a grating less than 100 μm.